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THIRD EDITION

# Dangerous Properties of Industrial Materials



37956

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Van Nostrand Reinhold Company

New York Cincinnati Toronto London Melbourne

**Countermeasures**

Storage and Handling: Section 7.

**LAURYL QUINOLINIUM CHLORIDE****Hazard Analysis**

Toxicity: Details unknown; a fungicide.

Fire Hazard: Unknown.

Disaster Hazard: Dangerous; see chlorides.

**Countermeasures**

Storage and Handling: Section 7.

**LAURYL THIOCYANATE****General Information**Formula:  $\text{CH}_3(\text{CH}_2)_{10}\text{CH}_2\text{SCN}$ .

Constant: Mol wt: 227.3.

Hazard Analysis and Countermeasures

See thiocyanates. An insecticide.

LAWRENCITE. See ferrous chloride.

**LAWRENCIUM****General Information**

Description: A synthetic transuranium element; At. No. 103.

Formula: Lw.

Constant: At wt: 257.

Hazard Analysis

Radioactive.

**LEAD****General Information**

Synonym: Plumbum.

Description: Bluish-gray, soft metal.

Formula: Pb.

Constants: At wt: 207.21, mp: 327.43°C, bp: 1620°C, d: 11.288 at 20°/20°C, vap. press.: 1 mm at 973°C.

**Hazard Analysis**

Toxic Hazard Rating:

Acute Local: 0.

Acute Systemic: Inhalation 3.

Chronic Local: 0.

Chronic Systemic: Ingestion 3; Inhalation 3.

Toxicology: See lead compounds. A common air contaminant (Section 4).

TLV: ACGIH (recommended); 0.2 milligrams per cubic meter of air.

Radiation Hazard: Section 5. For permissible levels, see Table 5, p. 150.

Artificial isotope  $^{203}\text{Pb}$ , half life 52 h. Decays to stable  $^{203}\text{Tl}$  by electron capture. Emits gamma rays of 0.28 MeV and others and X-rays.Natural isotope  $^{210}\text{Pb}$  (Radium-D, Uranium Series), half life 22 y. Decays to radioactive  $^{210}\text{Bi}$  by emitting beta particles of 0.015 (80%), 0.061 (20%) MeV. Also emits gamma rays of 0.046 MeV.  $^{210}\text{Pb}$  usually exists in equilibrium with its daughters  $^{210}\text{Bi}$  and  $^{210}\text{Po}$ .Natural isotope  $^{212}\text{Pb}$  (Thorium-B, Thorium Series), half life 10.6 h. Decays to radioactive  $^{212}\text{Bi}$  by emitting beta particles of 0.16 (5%), 0.34 (81%), 0.58 (14%) MeV. Also emits gamma rays of 0.24, 0.30 MeV and X-rays.

Fire Hazard: Moderate, in the form of dust when exposed to heat or flame. See also powdered metals.

Explosion Hazard: Moderate, in the form of dust when exposed to heat or flame.

Disaster Hazard: Dangerous; when heated it emits highly toxic fumes; can react vigorously with oxidizing materials.

**Countermeasures**

Ventilation Control: Section 2.

Personal Hygiene: Section 3.

First Aid: Section 1.

Storage and Handling: Section 7.

**LEAD ACETATE****General Information**

Synonym: Sugar of lead.

Description: White crystals, soluble in water. Commercial grades are frequently brown or gray lumps.

Formula:  $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 3\text{H}_2\text{O}$ .

Constants: Mol wt: 379.35, mp: 75°C; anhydrous 280°C, d: 2.55.

**Hazard Analysis and Countermeasures**

See lead compounds. An insecticide.

Shipping Regulations: Section 11.

IATA: Poison B, poison label; 25 kilograms (passenger), 95 kilograms (cargo) (solid).

**LEAD ACETATE, MONOBASIC****General Information**

Description: White powder.

Formula:  $\text{Pb}_2\text{OH}(\text{C}_2\text{H}_3\text{O}_2)_3$ .

Constant: Mol wt: 608.6.

**Hazard Analysis and Countermeasures**

See lead compounds.

**LEAD ANTIMONATE****General Information**

Synonyms: Naples yellow; antimony yellow.

Description: Orange-yellow powder.

Formula:  $\text{Pb}_3(\text{SbO}_4)_2$ .

Constant: Mol wt: 993.2.

**Hazard Analysis and Countermeasures**

See lead and antimony compounds.

**LEAD ARSENATES****General Information**

Synonyms: Lead o-arsenate; lead di-o-arsenate; lead mono-o-arsenate; lead pyro-arsenate; lead m-arsenate.

Description: White crystals.

**Hazard Analysis**

Toxicity: Highly toxic. See lead compounds and arsenic compounds.

TLV: ACGIH (recommended); 0.15 milligrams per cubic meter of air.

Disaster Hazard: Dangerous; on heating it emits highly toxic fumes.

**Countermeasures**

Storage and Handling: Section 7.

Shipping Regulations: Section 11.

I.C.C.: Poison B; poison label, 200 lbs (solid).

Coast Guard Classification: Poison B; poison label.

IATA: Poison B, poison label, 25 kilograms (passenger), 95 kilograms (cargo) (solid).

LEAD-m-ARSENATE. See lead arsenates.

LEAD-o-ARSENATE. See lead arsenates.

**LEAD ARSENITES****General Information**

Synonyms: Lead o-arsenite; lead m-arsenite.

Description: White powder.

**Hazard Analysis**

Toxicity: Highly toxic. See lead compounds and arsenic compounds.

Disaster Hazard: Dangerous; on heating it emits highly toxic fumes.

**Countermeasures**

Storage and Handling: Section 7.

Shipping Regulations: Section 11.

I.C.C.: Poison B; poison label, 200 pounds (solid).

Coast Guard Classification: Poison B; poison label.

IATA: Poison B, poison label, 25 kilograms (passenger), 95 kilograms (cargo) (solid).

LEAD m-ARSENITE. See lead arsenites.

LEAD-o-ARSENITE. See lead arsenites.

**LEAD AZIDE****General Information**

Description: Colorless needles.

le.  
white, oily liquid.  
Cl.3, mp: -19°C, bp: 112-160°C,  
vap. d.: 7.07.exposed to heat or flame.  
tely dangerous; when heated to  
is toxic fumes; it can react withtion 7.  
on dioxide, dry chemical or car-  
lion 6).**LIUM BROMIDE**

, water-soluble liquid. Pleasant

n. See also bromides. Highly  
ments suggest high toxicity. Aexposed to heat or flame (Sec-  
us; when heated to decomposi-  
nes; can react with oxidizing ma-

tion 7.

tan.  
o pale yellow liquid.i, mp: -7°C, bp: 115-177°C,  
at 15.5°/15.5°C.**Countermeasures****CHLORIDE**ium chloride.  
mi-solid.  
Cl.  
ash p: 347°F.posed to heat or flame.  
ly dangerous; when heated to de-  
oxic fumes; can react with oxi-ion 7.  
on dioxide, dry chemical or car-  
on 6).**M BROMIDE**

See also bromides.

s; see bromides.

oth irreversible and reversible changes;  
h or permanent injury.  
rmanent injury after very short exposure

on humans considered valid by authors.